Atlona HDBaseT to HDMI Receiver/Scaler with Audio De-Embedding

AT-HDVS-RX

User Manual

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Introduction

Atlona HDVS receiver box was designed to smooth the transition from analog to digital displays in schools and businesses, allowing advanced HDMI display devices to be used with the many VGA computers still in use. Many displays don't support the resolutions and refresh rates typical of VGA sources. In addition, the HDVS-RX is compatible with Atlona PoCc switchers and distribution amplifiers with HDBaseT outputs and is a good solution when scaling is requred for a specific display.

When used with a matching HDVS-TX or HDVS-TX-WP, projector control is enabled. HDBaseT and power over category cable (PoCc) allow signal and power over a single category cable, with RS-232 control capability.
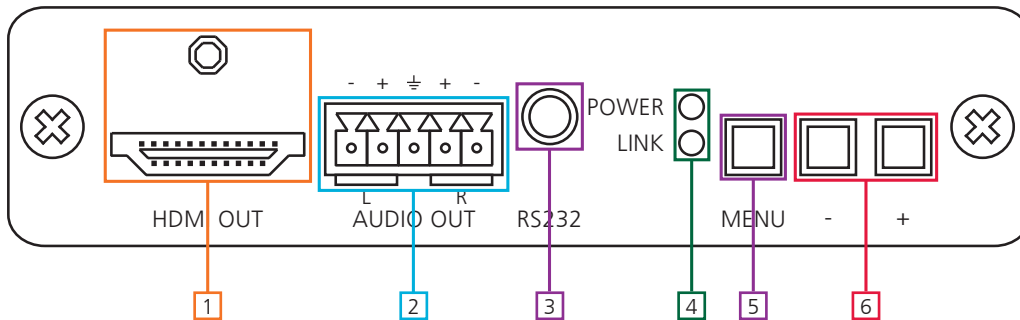
Package Contents

- 1 x AT-HDVS-RX
- 1 x 3.5mm to d-sub adapter
- 2 x Captive screw female connector (5 pin: audio, 2 pin: power)
- 1 x 24V DC captive screw power adapter
- 1 x User manual

Features

- Scales incoming signals at a variety of common resolutions up to 1080p or 1920x1200
- Complete video control of brightness, contrast, saturation, hue, and more
- Extends common resolutions up to 1080p or 1920x1200 to distances as long as 230ft (70 meters)*
- Front panel on-screen menu control for ease of use
- 2-channel analog audio on balanced output to an amplifier (Ex. AT-PA100-G2)
- PoCc (Power over Category cable) sends power to compatible transmitters
        ex. AT-HDVS-TX-WP or AT-HDVS-TX
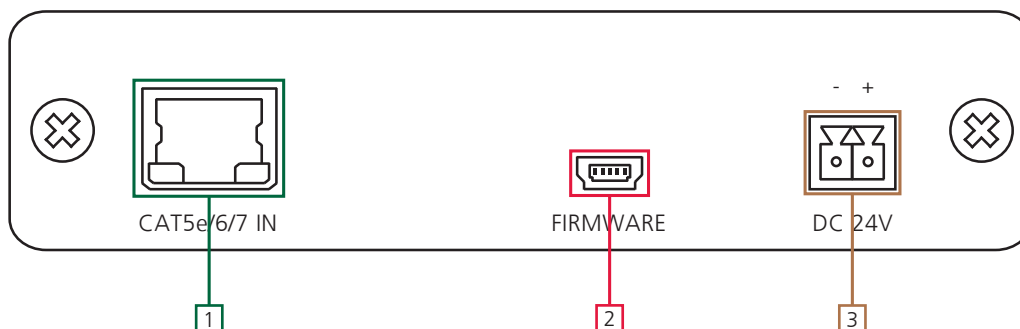- Firmware upgradable for easy field service through USB

Panel Description

Front Panel

1. HDMI OUT: Connect to display
2. AUDIO OUT: Connect to amplifier (ex. AT-PA100-G2)
3. RS-232: Connect to PC or control system to program RS-232 control then connect to a display for on / off command control
4. Status LEDs
   POWER LED: Illuminates when receiving power
   LINK LED: Illuminates when HDBaseT link is functioning properly
5. MENU button: Use to enter, exit, and select within the on-screen display OSD menu
6. Navigation buttons: Navigate through OSD menu or use to set output resolutions
   "Menu" and "-" : Set output resolution to 720p@50Hz
   "-" and "+" : Set output resolution to 720p@60Hz
Note: Pressing the "+" button while the OSD menu is closed and a VGA source is selected will cause the video to auto adjust

Back Panel

1. CAT5e/6/7 IN: Connect HDBaseT source here
2. FIRMWARE: Connect to a PC using a mini USB to USB for firmware updating
3. DC 24V: Connect included 24V DC adapter here to power HDVS-RX and compatible transmitters

OSD Menu

Menu Option	Sub-Menu Option	Adjust	
Input Select	VGA		
	HDMI		
	HDMI 2		(when applicable)
	Menu Back		
Output Resolution	1024x768	720p59.94	1080p60
	1280x800	720p60	Native
	1280x1024	1080i50	Menu Back
	1366x768	1080i59.94	
	1400x1050	1080i60	
	1600x1200	1080p23.98	
	1680x1050	1080p24	
	1920x1200	1080p25	
	720p35	1080p29.97	
	720p29.97	1080p30	
	720p30	1080p50	
	720p50	1080p59.94	
VGA Adjust			
Picture Adjust	Brightness	0 to 100	
	Contrast	0 to 100	
	Saturation	0 to 100	
	Hue	0 to 100	
	Sharpness	0 to 100	
	Picture Reset		
	Menu Back		
Aspect	Full	Full Screen	
	16:9 TV		
	16:10 TV		
	4:3 TV		
	Keep Ratio		
	Menu Back		
Overscan	Enable	Yes or No	
	H Size %	0 to 50%	
	V Size %	0 to 50%	
	Menu Back		
Audio	Audio On/Off	On or Off (mute)	
	HDMI Audio	On or Off	
	L/R Audio	On or Off	
	Menu Back		

Menu Option	Sub-Menu Option	Adjust
OSD	Position	Left-Top, Right-Top, Right-Bottom, Left-Bottom, Center
	Transparency	0 (transparent) to 15 (solid)
	Info. Timer	5 to 100 seconds
	Menu Timer	5 to 100 seconds
	Info. Display	Always On, Auto, or Always Off
	Background	Grey, Cyan, Magenta, or Yellow
	Menu Back	
Others	In Auto Switch	On or Off
	Mirror-V	On or Off
	ASP Background	Grey, Black
	Display Mode	DispSW AVon, DispSW AVSW, AV SW, Always On
	ProJSW Mode	5 to 300 (increases by 5)
	Standby (min.)	0 to 15
	Menu Back	
Information	Source Name Product Sink Model Native 1 Native 2 F/W Menu Back	
System Reset	No	
	Yes	
	Menu Back	
Menu Exit		

Note: Display Mode does a variety of changes, see below

DispSW AVon - Display switches on/off, source audio/video signal always on
DispSW AVSW - Display switches on/off, source audio/video signal switches on/off
AV SW - Display is always on, source audio/video signal switches on/off
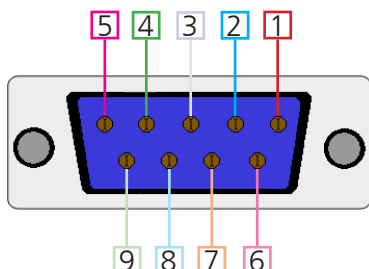Always On - Default, no function

ProJSW Mode: Used with a projector whose lamp cannot be turned on for up to 5 minutes after being shut off. Keeps control in same state as projector. Match settings with lamp delay on projector in 5 to 300 seconds.

Standby (min.): Adjusts period of time before scaler goes into standby following loss of signal.
    Default is 1 minute

RS-232

Connection

RS-232 is connected through a 9-pin female DB connector. Only pins 2, 3, and 5 are terminated.
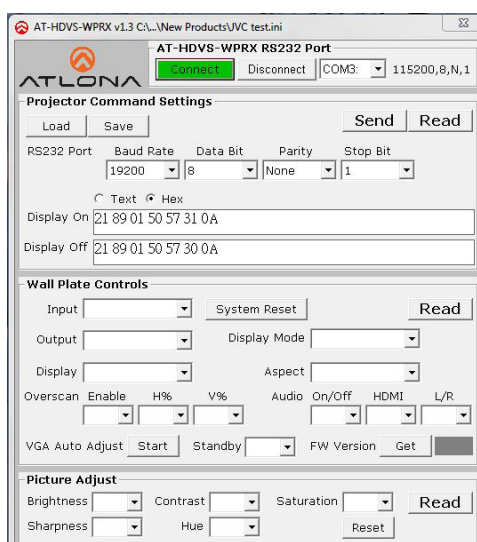

No.	Pin	Function
1	----	Not used
2	Tx	Transmit
3	Rx	Receive
4	----	Not used
5	Gnd	Ground
6	----	Not used
7	----	Not used
8	----	Not used
9	----	Not used

Control Software

Control software and instructions for ease of use can be found on the AT-HDVS-RX webpage on atlona.com.

URL: **http://www.atlona.com/HDVS-RX.html** (instructions/software found under the "Downloads" tab)
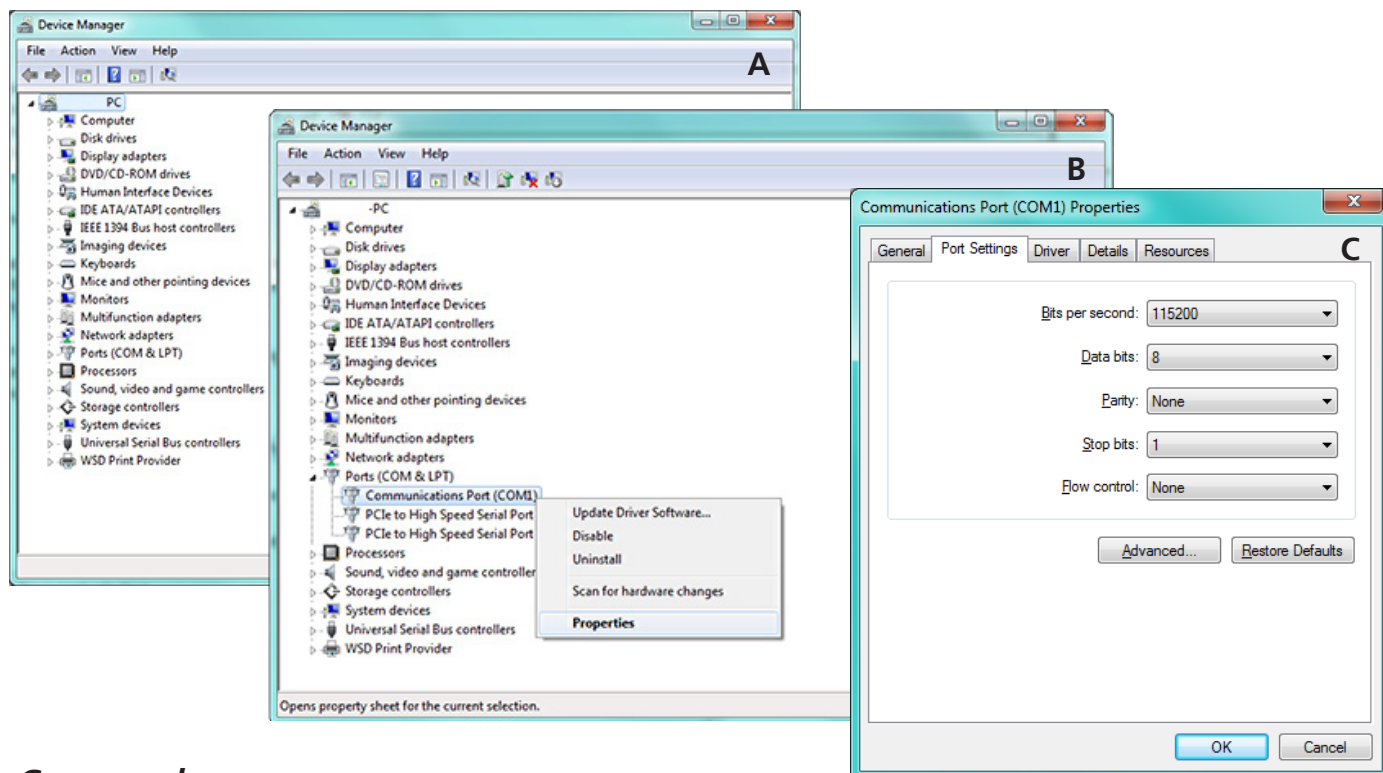

Set Up

To set up the RS-232 hyperterminal (if not using 3rd party software) use the following steps:

1. Connect the receiver to a PC using a 9 pin serial to USB adapter
Note: Receiver must be disconnected from the display for RS-232 set up
2. Go to the device manager folder (see picture A) on your computer
3. Find the receiver COM port and right click with a mouse and select properties (see picture B)
    NOTE: If unsure which COM port is connected, unplug the USB cable and plug it back in. It will disappear and reappear on the COM port list.
4. Under the properties menu select the port settings tab and update the menu to the **receiver default settings of**: Bits Per Second: 115200, Data Bits: 8, Parity: None, Stop Bits: 1 and Flow Control: None. (see picture C)

Set up is done and any hyperterminal program may be used to control the HDVS-RX now.

Commands

The command codes are case sensitive, do not change capitalization, spacing, or lettering.

Command	Parameters	Description
WP_DisplaySet[a,b,c,d]$**CR** WP_DisplaySet[?]$**CR**	**[a]** baud rate: 2400 , 9600 , 19200 , 38400 , 56000 , 57600 , 115200 **[b]** data bit: 5 , 6 , 7 , 8 **[c]** parity: N (None) , O (Odd) , E (Even) , M (Mark) , S (Space) **[d]** stop bit: 1 , 1.5 , 2	Set projector's RS-232 port
WP_DisplayOn[a,b]$**CR** WP_DisplayOn[?]$**CR**	**[a]** command length. CR is computed, if it has a CR. Max. command length is 50 **[b]**command string. Include CR ,if it has a CR. Supports multi-command in a command string. Supports delay-command COMMA (a comma=5 sec)	Set projector's Display On command
WP_DisplayOff[a,b]$**CR** WP_DisplayOff[?]$**CR**	**[a]** command length. CR is computed, if it has a CR. Max. command length is 50 **[b]**command string. Include CR ,if it has a CR. Supports multi-command in a command string. Supports delay-command COMMA (a comma=5 sec)	Set projector's Display Off command
WP_IdentifyTx[a]$**CR**	**[a]** ?	Identify Tx model; reply TX=AT-HDVS-TX, TXWP=AT-HDVS-TX-WP
WP_Input[a]$**CR**	**[a]** ? , Hdmi1 , Hdmi2 , Vga	Select input source
WP_Input[a]$**CR**	**[a]** ? , Hdmi , Vga	Select input source
WP_Display[a]$**CR**	**[a]** ? , On , Off	Display On/Off control

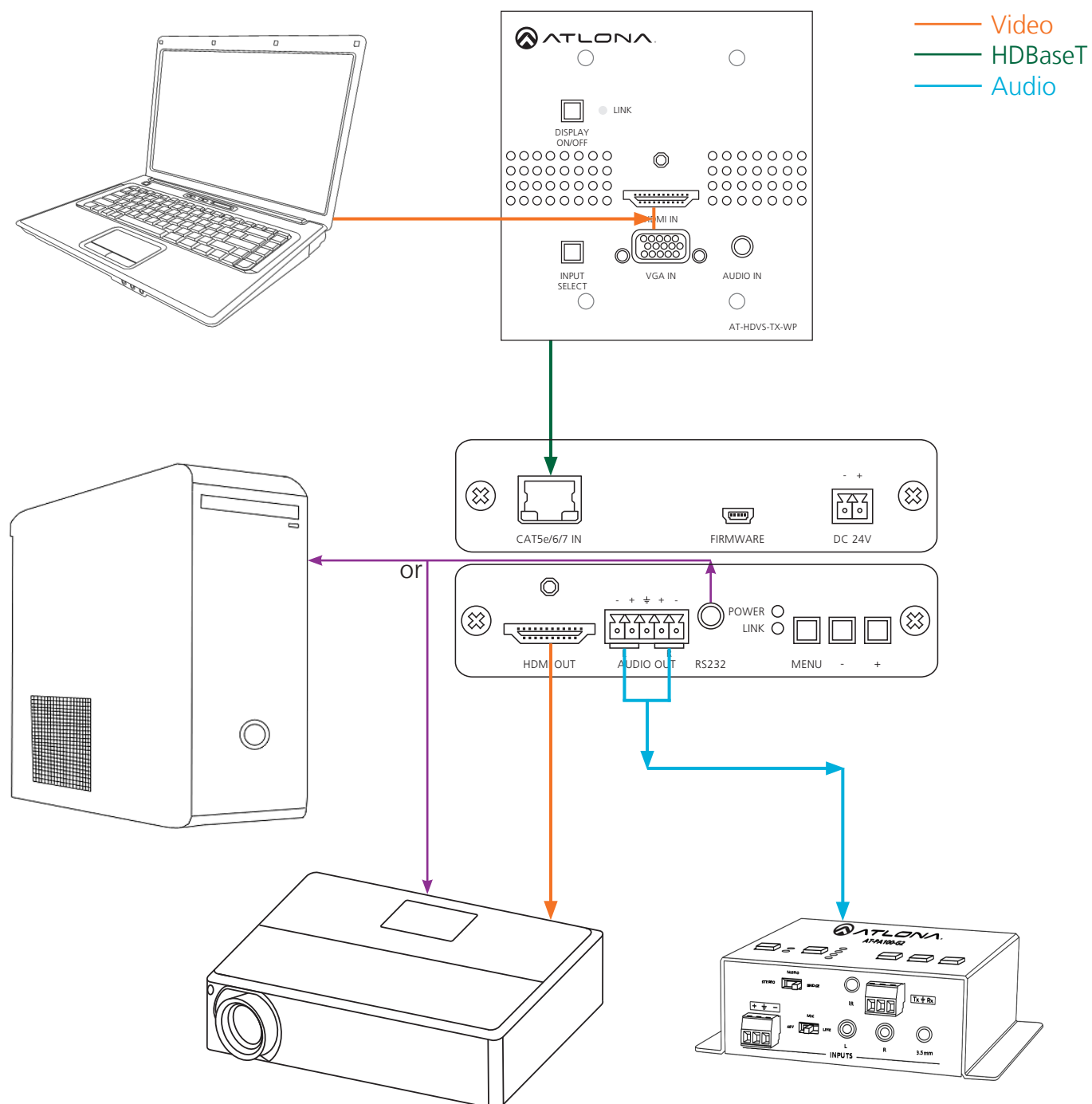| WP_DisplayMode[a]$**CR**	**[a]** ? , DispSWAVOn , DispSWAVSW , AVSW , AlwaysOn	Set display mode
WP_Aspect[a]$**CR**	**[a]** ? , Full , 16:9 , 16:10 , 4:3 , Keep	Select output aspect ratio
WP_AutoSwitch[a]$**CR**	**[a]** ? , On, Off	Input Auto Switch enable/disable
WP_VgaAuto[a]$**CR**	**[a]** Go	Run VGA source auto-adjust
WP_VgaClock[a]$**CR**	**[a]** ? , Normal , Inverse	Set VGA ADC clock polarity
WP_Info[a]$**CR**	**[a]** ?	Get WPRX firmware version
WP_Output[a]$**CR**	**[a]** ? , 0 , 1 , 2 ... (map osd menu Output list)	Select output resolution
WP_OverscanEn[a]$**CR**	**[a]** ? , Yes , No	Set overscan enable/disable
WP_OverscanH[a]$**CR**	**[a]** ? , 0 ~ 50	Set overscan H size (%)
WP_OverscanV[a]$**CR**	**[a]** ? , 0 ~ 50	Set overscan V size (%)
WP_AudioEn[a]$**CR**	**[a]** ? , On , Off	Set audio out On/Off
WP_AudioHdmi[a]$**CR**	**[a]** ? , On , Off	Set hdmi audio out On/Off
WP_AudioLR[a]$**CR**	**[a]** ? , On , Off	Set analog L/R audio out On/Off
WP_SystemRst[a]$**CR**	**[a]** Go	Run system reset
WP_PictureBri[a]$**CR**	**[a]** ? , + , - , 0 ~ 100	Set picture brightness
WP_PictureCon[a]$**CR**	**[a]** ? , + , - , 0 ~ 100	Set picture contrast
WP_PictureSat[a]$**CR**	[a] ? , + , - , 0 ~ 100	Set picture saturation
WP_PictureHue[a]$**CR**	[a] ? , + , - , 0 ~ 100	Set picture hue
WP_PictureSha[a]$**CR**	[a] ? , + , - , 0 ~ 100	Set picture sharpness
WP_PictureRst[a]$**CR**	[a] Go	Run picture reset
WP_Standby[a]$**CR**	[a] ? , 0 ~ 10	Standby timer in minute
]$**CR**		Abort command, Feedback is COMMAND FAIL

Note:
1. **CR** means Carriage Return, ASC(0x0D)
2. Each command and feedback is terminated with a carriage return.
3. Spaces aren't allowed except in projector display on/off command strings.
4. AT-HDVS-RX RS-232 port settings:
   115200 bps, 8 bit data length, No parity bit, 1 bit stop-bit, No flow control.
5. Feedback for a command repeats the original command.
6. If a command fails or is aborted, the feedback should be "COMMAND FAIL".
7. Some commands support query function by parameter [?]
   Example: To get projector's display on command -> WP_DisplayOn[?]$**CR**
   To get input status -> WP_Input[?]$**CR**

Connection and Installation

Video
HDBaseT
Audio

DISPLAY
ON/OFF

LINK

INPUT
SELECT

VGA IN

AUDIO IN

HDMI IN

AT-HDVS-TX-WP

CAT5e/6/7 IN

FIRMWARE

DC 24V

- +

or

HDMI OUT

AUDIO OUT

RS232

POWER
LINK

MENU   -   +

INPUTS

STEREO   MONO

MIC

48V   LINE

IR

L   R   3.5mm

Tx Rx

Specifications

Bandwidth	6.75Gbps

Ports
     Video input
     Video output
     Audio output
     RS-232
     Firmware update
     Power
	1 x HDBaseT
	 1 x HDMI
	 1 x captive screw (balanced analog)
	 1 x 3.5 mm
	 1 x mini USB
	 1 x captive screw

Power Consumption	17.2W (paired with HDVS-TX-WP)
Audio	Passes up to Dolby TrueHD or DTS-HD Master Audio
Resolution	Video: up to 1080p VESA: up to 1920x1200
Distance	230ft @ 1080p over CAT6a/7 197ft @ 1080p over CAT5e/6
Dimensions	1.18 x 4.8 x 4.92 in 30 x 122 x 125 mm
Weight	0.67 lbs 0.31 kg

Temperature	Operating 32°F to 104°F 0°C to 40°C	Storage -4°F to 140°F 20°C to 60°C
Certifications	CE, FCC, RoHS, cULus for power supplies	

Safety Information

Safeguards

To reduce the risk of electric shock, do not expose this product to rain or moisture

Do not modify the wall plug. Doing so will void the warranty and safety features.

If the wall plug does not fit into your local power socket, hire an electrician to replace your obsolete socket.

This equipment should be installed near the socket outlet and the device should be easily accessible in the case it requires disconnection.

Precautions

FCC regulations state that any unauthorized changes or modifications to this equipment, not expressly approved by the manufacturer, could void the user's authority to operate this equipment.

Operate this product using only the included external power supply. Use of other power supplies could impair performance, damage the product, or cause fires.

In the event of an electrostatic discharge this device may automatically turn off. If this occurs, unplug the device and plug it back in.

Protect and route power cords so they will not be stepped on or pinched by anything placed on or against them. Be especially careful of plug-ins or cord exit points from this product.

Avoid excessive humidity, sudden temperature changes or temperature extremes.

Keep this product away from wet locations such as bathtubs, sinks, laundries, wet basements, fish tanks, and swimming pools.

Use only accessories recommended by Atlona to avoid fire, shock, or other hazards.

Unplug the product before cleaning. Use a damp cloth for cleaning and not cleaning fluid or aerosols. Such products could enter the unit and cause damage, fire, or electric shock. Some substances may also mar the finish of the product.

Never open, remove unit panels, or make any adjustments not described in this manual. Attempting to do so could expose you to dangerous electrical shock or other hazards. It may also cause damage to your AT-HDVS-RX. Opening the product will void the warranty.

Do not attempt to service the unit. Disconnect the product and contact your authorized Atlona reseller or contact Atlona directly.

Warranty

Limited Warranty

Atlona Technologies warrants that (a) its products (AT-HDVS-RX) will perform substantially in accordance with the accompanying written materials for a period of 3 years from the date of receipt and (b) that the product will be free from defects in materials and workmanship under normal use and service for a period of 3 years. In the event applicable law imposes any implied warranties, the implied warranty period is limited to 3 years from the date of receipt. Some jurisdictions do not allow such limitations on duration of an implied warranty, so the above limitation may not apply to customers that fall within those areas.

Customer Remedies

Atlona Technologies' and its suppliers' entire liability and Customer's exclusive remedy shall be, at Atlona Technologies' decision, either return of the price paid for the product, repair, or replacement of the product that does not meet this Limited Warranty and which is returned to Atlona Technologies with a copy of the Customer's receipt. This Limited Warranty is void if failure of the product has resulted from accident, abuse, misapplication, or natural occurrence. In example but not limited to: power surges (electrical storms, local power outage), dropping the product (or items on the product), contact with fluids, and physical misconduct (i.e. kicking or punching). Any replacement product will be warranted for the remainder of the original warranty period.

No other warranties

To the maximum extent permitted by applicable law, Atlona Technologies and its suppliers disclaim all other warranties, either expressed or implied, including, but not limited to, implied warranties of merchantability and fitness for a particular purpose, with regard to the product and any related written materials. This Limited Warranty gives customer specific legal rights. Customers may have other rights depending on the jurisdiction.

No liability for damages

To the maximum extent permitted by applicable law, in no event shall Atlona Technologies or its suppliers be liable for any damages arising out of the use of or inability to use this product, even if Atlona Technologies has been advised of the possibility of such damages. Such damages include but are not limited to: special, incidental, consequential, or indirect damages for personal injury, loss of business profits, business interruption, loss of business information, or any other pecuniary loss. Atlona Technologies' and its suppliers' entire liability under any provision of this agreement shall be limited to the amount actually paid by you for the product. Some Jurisdictions do not allow the exclusion or limitation of liability for consequential or incidental damage. The above limitations may not apply to you in such jurisdictional cases.

Atlona Product Registration

Thank you for purchasing this Atlona product. - We hope you enjoy it and will take an extra few moments to register your new purchase.

Registration creates an ownership record if your product is lost or stolen and helps ensure you'll receive notification of performance issues and firmware updates.

At Atlona we respect and protect your privacy, assuring you that your registration information is completely secure. Atlona product registration is completely voluntary and failure to register will not diminish your limited warranty rights.

To register go to: http://www.atlona.com/registration